



ALS PERU S.A.
ATTN: Miguel Marcelo
AV. Argentina 1859, Cercado De Lima
Lima 1
Peru

Date Received: 01-MAR-12
Report Date: 15-MAR-12 11:19 (MT)
Version: FINAL

Client Phone: 511-336-5353

Certificate of Analysis

Lab Work Order #: L1119752
Project P.O. #: COBRE PANAMA
Job Reference: MINERA PANAMA S.A. ATTN: HERNAN CASTRO,
JOSE SIMMONDS
C of C Numbers: LE1200459
Legal Site Desc:

Stefanie Teo
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1119752-1	L1119752-2	L1119752-3	L1119752-4	L1119752-5
		Description	AS	AS	AS	AS	AS
		Sampled Date	11-FEB-12	11-FEB-12	12-FEB-12	12-FEB-12	12-FEB-12
		Sampled Time	11:00	12:15	08:50	09:20	09:50
		Client ID	W-29	W-35	W-52	W-53	W-54
Grouping	Analyte						
WATER							
Anions and Nutrients	Total Kjeldahl Nitrogen (mg/L)		0.284	0.176	0.107	0.124	0.150
	Total Nitrogen (mg/L)		0.730	0.590	0.200	0.130	0.110
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)		3.69	1.83	1.48	1.64	1.04

		Sample ID	L1119752-6	L1119752-7	L1119752-8	L1119752-9	L1119752-10
		Description	AS	AS	AS	AS	AS
		Sampled Date	13-FEB-12	12-FEB-12	12-FEB-12	12-FEB-12	12-FEB-12
		Sampled Time	10:20	13:25	13:35	14:35	14:40
		Client ID	W-26	W-60	W-61	W-62	W-63
Grouping	Analyte						
WATER							
Anions and Nutrients	Total Kjeldahl Nitrogen (mg/L)	0.084	<0.050	0.051	0.079	0.078	
	Total Nitrogen (mg/L)	0.130	0.160	0.150	0.060	0.060	
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	1.23	0.62	0.65	0.69	0.76	

	Sample ID Description Sampled Date Sampled Time Client ID	L1119752-11 AS 13-FEB-12 14:45 W-25	L1119752-12 AS 13-FEB-12 15:50 W-28	L1119752-13 AS 14-FEB-12 09:15 W-36	L1119752-14 AS 14-FEB-12 12:10 W-34	
Grouping	Analyte					
WATER						
Anions and Nutrients	Total Kjeldahl Nitrogen (mg/L)	0.21	0.304	0.113	0.075	
	Total Nitrogen (mg/L)	0.200	0.620	<0.050	<0.050	
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	1.17	1.68	0.82	1.16	

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CARBONS-DOC-VA	Water	Dissolved organic carbon by combustion	APHA 5310 TOTAL ORGANIC CARBON (TOC)
This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". Dissolved carbon (DOC) fractions are determined by filtering the sample through a 0.45 micron membrane filter prior to analysis.			
N-TOT-COMBUST-VA	Water	Total Nitrogen in Water by Combustion	EN 12260 (EU STD METHOD)
This analysis is carried out, on hydrochloric acid preserved samples, using procedures modified from Method EN 12260 "Water quality - Determination of nitrogen - Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides." Total Nitrogen is determined directly by pyrolysis with infrared detection using automated instrumentation.			
TKN-F-VA	Water	TKN in Water by Fluorescence	APHA 4500-NORG D.
This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA

Chain of Custody Numbers:

LE1200459

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg ww - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

